

FINAL SCOPING REPORT

Scoping and Environmental Impact Assessment for the Proposed Development of an independent 400/132kV Main Transmission Substation (MTS) and a 400 kV Loop-In-Loop-Out (LILO) from the MTS to an existing Eskom power line, as well as associated infrastructure; near Smithfield, within the Mohokare Local Municipality, Xhariep District Municipality, Free State.



April 2024

Prepared by:
Council for Scientific and
Industrial Research (CSIR)



Prepared for:
Scatec Africa (Pty) Ltd and
Veroniva (Pty) Ltd



PART A: MAIN REPORT



SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT

for the

Proposed Development of an independent 400/132kV Main Transmission Substation (MTS) and a 400 kV Loop-In-Loop-Out (LILO) from the MTS to an existing Eskom power line, as well as associated infrastructure; near Smithfield, within the Mohokare Local Municipality, Xhariep District Municipality, Free State

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Formatting and Desktop Publishing:

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Report Details

Title:	Scoping and Environmental Impact Assessment for the Proposed Development of an independent 400/132kV Main Transmission Substation (MTS) and a 400 kV Loop-In-Loop-Out (LILO) from the MTS to an existing Eskom power line, as well as associated infrastructure; near Smithfield, within the Mohokare Local Municipality, Xhariep District Municipality, Free State: FINAL SCOPING REPORT.	
Purpose of this report:	<p>The purpose of this Final Scoping Report is to:</p> <ul style="list-style-type: none"> ▪ Present the details of and the need for the proposed project; ▪ Describe the affected environment at a sufficient level of detail to facilitate informed decision-making; ▪ Provide an overview of the Scoping Process that has been followed, including public consultation; ▪ Provide an overview of the potential positive and negative impacts of the proposed project on the environment; ▪ Provide recommendations to avoid or mitigate negative impacts and to enhance the positive benefits of the proposed project (based on a high-level); and ▪ Provide the Plan of Study for the EIA Phase for the proposed project. <p>The Draft Scoping Report was made available to all Interested and/or Affected Parties (I&APs), Organs of State and relevant stakeholders for a 30-day review period, which extended from 8 March 2024 to 10 April 2024, excluding public holidays. All comments submitted during the 30-day review period have been incorporated in a Comments and Responses Report, and addressed, as applicable and where relevant, and is included as an appendix to this Final Scoping Report. The Final Scoping Report is being submitted to the National Department of Forestry, Fisheries and the Environment (DFFE) for consideration.</p>	
Prepared for:	Scatec Africa (Pty) Ltd and Veroniva (Pty) Ltd	
Prepared by:	CSIR:	
Lead Authors:	Paul Lochner, Rohaida Abed, Suvasha Ramcharan and Helen Antonopoulos (CSIR)	
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Formatting and Desktop Publishing:	Magdel van der Merwe, DTP Solutions	
Date:	April 2024	
DFFE Reference No:	<ul style="list-style-type: none"> ▪ Biesjesvlei MTS and LILO: 14/12/16/3/3/2/2535 	
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Key change description	Change made – Yes (denoted by ✓) or N/A (denoted by ■)															
	Chapters								Appendices							
	Summary	1	2	3	4	5	6	7	A	B	C	D	E	F	G	H
The term “Draft Scoping Report” and has been updated to “Final Scoping Report”, where applicable	✓	✓	✓	✓	✓	✓	✓	✓	■	■	■	■	■	■	■	■
Status update provided on Bid Window 7 of the Renewable Energy Independent Power Producer Programme (REIPPPP)	■	✓	■	■	■	✓	■	■	■	■	■	■	■	■	■	■
Link to Appendix G.6 of the Final Scoping Report which includes feedback from the South African Heritage Resources Agency (SAHRA) on the acceptance of the approach followed for Palaeontology (i.e. Site Sensitivity Verification confirming low to very low sensitivity with no further Palaeontology assessment needed).	✓	✓	■	■	✓	■	■	✓	■	■	■	■	■	■	✓	■
Section 4.1.1.6 of Chapter 4 of the Final Scoping Report has been added to include feedback on the DFFE Solar Exclusion Norm published in GG 50388, GN 4558 on 27 March 2024.	■	■	■	■	✓	■	■	■	■	■	■	■	■	■	■	■
Update of the preliminary mitigation measure for potential avifaunal impacts as follows (i.e. specifying that power lines of 132 kV or lower voltages should be considered to be placed underground where possible): <i>Where possible, power lines of 132 kV or less should be buried underground.</i>	■	■	■	■	■	■	■	✓	■	■	■	■	■	■	■	■
Inclusion of Table 7.7 that provides a summary of the key issues raised by stakeholders during the 30-day review period on the Draft Scoping Report, as well as summarised key responses. Feedback that the issues raised by stakeholders during the 30-day review period on the Draft Scoping Report are in line with the potential impacts and issues initially raised by the specialists for further assessment in the EIA Phase. Feedback that no changes needed to be made to the Plan of Study for EIA based on comments received.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	✓	■
Updated with SAHRA Case Numbers assigned to the projects.	■	■	■	■	✓	■	■	■	■	■	■	■	■	■	■	✓
Updated with Department of Forestry, Fisheries and the Environment (DFFE) Reference Numbers assigned to the projects.	✓	■	■	■	✓	■	■	✓	■	■	■	■	■	■	✓	✓
Updated with details of the Public Participation Process undertaken thus far, including the status and progress made on the Scoping Process such as status of comments received from key organs of state.	✓	✓	✓	■	✓	✓	✓	✓	■	■	■	■	■	■	✓	■

Key change description	Change made – Yes (denoted by ✓) or N/A (denoted by ■)															
	Chapters								Appendices							
	Summary	1	2	3	4	5	6	7	A	B	C	D	E	F	G	H
Updated with additional information regarding the submission of the Application for EA to the DFFE, as well as DFFE's acknowledgment of receipt.	■	■	■	■	✓	■	■	■	■	■	■	■	■	■	✓	■
Added proof of placement of the newspaper advertisements (Appendix G.2), correspondence and proof of correspondence sent to stakeholders for the Draft Scoping Report release (Appendix G.4); proof of submission of the Draft Scoping Report and Application Form to the DFFE (Appendix G.5); comments received from stakeholders during the 30-day review of the Draft Scoping Report (Appendix G.6); and Comments and Responses Trail (Appendix G.7).	■	■	■	■	■	■	■	■	■	■	■	■	■	■	✓	■
Updated the database of I&APs, Stakeholders and Organs of State to reflect additions to and removals from the database based on requests and additional research on valid contact details.	■	■	■	■	■	■	■	■	■	■	■	■	■	✓	■	■

Note from the CSIR: If sections are not mentioned in the above table, this means that either there have been no changes or no major changes to these sections.

Executive Summary

INTRODUCTION AND PROJECT LOCALITY

Scatec Africa (Pty) Ltd (the project owner) with support from Veroniva (Pty) Ltd, are proposing to develop three Solar Photovoltaic (PV) and Battery Energy Storage System (BESS) Facilities, and associated Electricity Grid Infrastructure (EGI), near Smithfield within the Mohokare Local Municipality, Xhariep District Municipality, Free State (Figure A). The project is referred to as the “Biesjesvlei” Solar PV, BESS and EGI development.

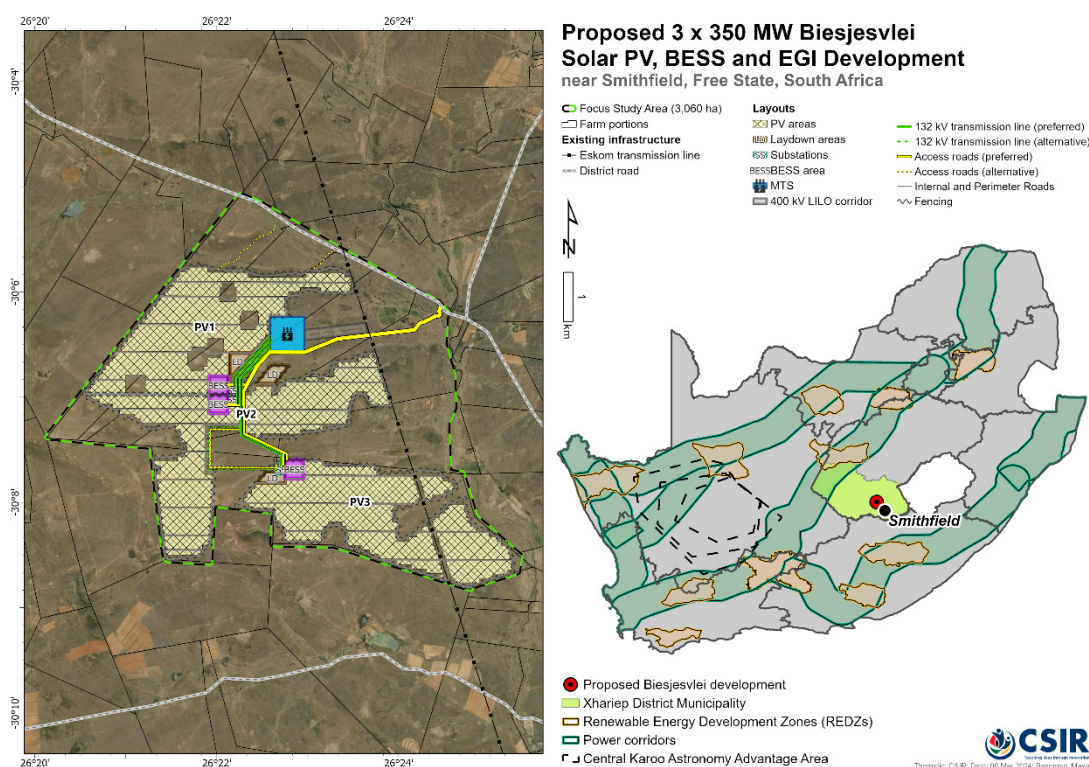


Figure A. Locality map for the proposed Biesjesvlei Solar PV1 to PV3; Biesjesvlei BESS 1 to 3; Biesjesvlei EGI 1 to 3; and Biesjesvlei MTS and LILO, near Smithfield in the Free State.

The proposed projects are not located within any of the Renewable Energy Development Zones (REDZs) that were gazetted in GN 114 on 16 February 2018; and GN 144 on 26 February 2021. The proposed projects are also not located within any of the Strategic Transmission Corridors that were gazetted in GN 113 on 16 February 2018; and GN 1637 on 24 December 2021.

Each solar PV facility will have a range of associated infrastructure and is proposed to connect to an existing 400 kV power line via dedicated 132 kV power lines, a proposed independent Main Transmission Substation (MTS) and a Loop-In-Loop-Out (LILO).

Each of the Solar PV Facilities would be its own project and would require its own, separate Environmental Authorisation (EA). The same applies to the BESS and EGI projects. Each project will have a specific Project Applicant. The following projects are being proposed (Figure B):

- **PROJECTS 1 TO 3:** The proposed development of three Solar PV Facilities and associated infrastructure (i.e. Biesjesvlei PV1 to Biesjesvlei PV3).
- **PROJECTS 4 TO 6:** The proposed development of three BESS and associated infrastructure (i.e. Biesjesvlei BESS 1 to Biesjesvlei BESS 3).
- **PROJECTS 7 to 9:** The proposed development of a 132 kV Overhead Power Line from each Biesjesvlei PV Facility to the proposed MTS, and associated infrastructure (i.e. Biesjesvlei EGI 1 to Biesjesvlei EGI 3).
- **PROJECT 10:** The proposed development of an independent 400/132kV MTS and a 400 kV LILO from the MTS to the existing Eskom power line, as well as associated infrastructure (i.e. Biesjesvlei MTS and LILO).

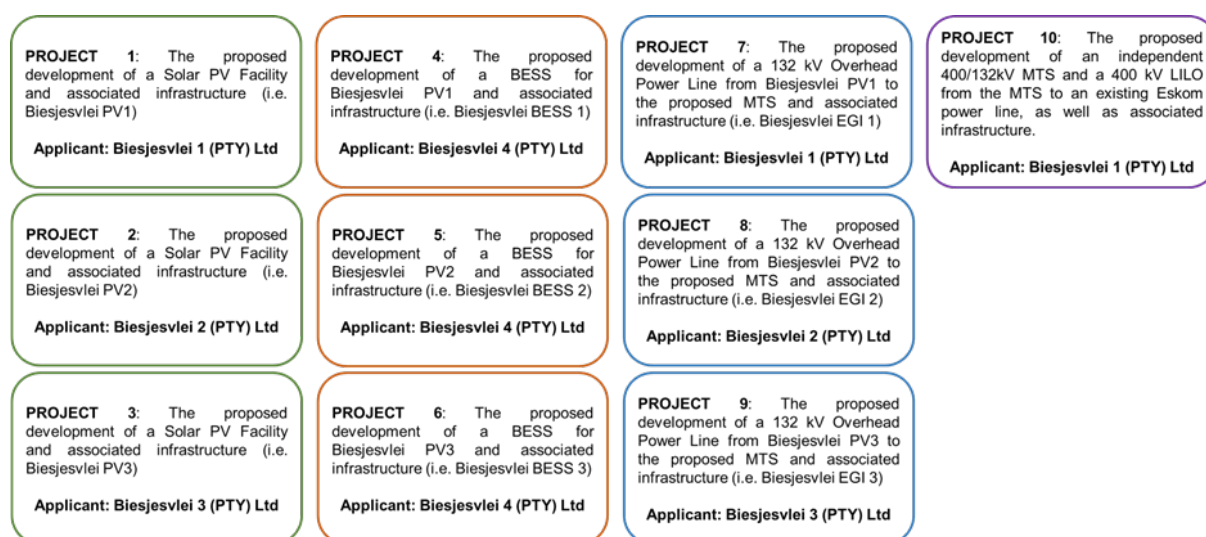


Figure B: Breakdown of the projects that comprise the Biesjesvlei Solar PV, BESS, EGI, MTS and LILO Development.

REPORT COMBINATION AND AVAILABILITY

A request to combine the Environmental Assessment reporting, for Projects 1 to 9, in terms of Regulation 11 of the 2014 National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) Environmental Impact Assessment (EIA) Regulations (as amended), and the issuing of multiple EAs in terms of Regulations 25 (1) and (2) was discussed with the National Department of Forestry, Fisheries and the Environment (DFFE) at the Pre-Application Meeting on 6 October 2023. A letter was submitted to the DFFE to request for the combination and issuing of multiple EAs in October 2023. The DFFE approved the request for combination and multiple EAs (should they be granted) in a letter dated 1 November 2023, sent via email on 6 November 2023.

The report for Project 10 (Biesjesvlei MTS and LILO) [i.e. **this report**] is not included in the combined reporting because only one EA is required for this project. Hence, one standalone report has been compiled for Project 10 [i.e. **this report**].

The reporting structure indicated in Figure C is being used.

In summary, separate combined reports have been compiled for each PV Facility, BESS and EGI cluster (i.e. Projects 1 to 9) and a separate Scoping Report has been compiled for the MTS and LILO (i.e. Project 10) [i.e. this report]. Overall, four Scoping Reports have been compiled for the proposed development, and it is proposed that 10 separate EAs will be issued (should they be granted).

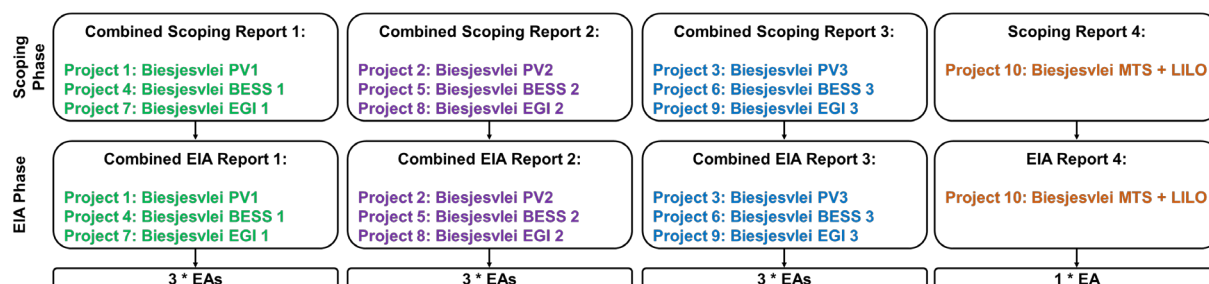


Figure C: Environmental Assessment Reporting Structure for the Biesjesvlei Solar PV, BESS, EGI, MTS and LILO Development.

This Scoping Report only addresses the Biesjesvlei MTS and LILO (Project 10).

The Draft Scoping Report was released to all Interested and/or Affected Parties (I&APs), Organs of State and relevant stakeholders for a 30-day review period, which extended from 8 March 2024 to 10 April 2024 (excluding public holidays). All comments received during the 30-day review have been incorporated into a detailed Comments and Responses Report, and addressed, as applicable and where relevant, and have been included as Appendix G.7 of this Final Scoping Report. The Final Scoping Report is being submitted to the DFFE for consideration.

An integrated Public Participation Process is being undertaken for the proposed projects (i.e. Projects 1 to 10).

COMPETENT AUTHORITY AND APPLICANT

The Competent Authority for the proposed project is the National DFFE as an agreement has been reached in terms of Section 24C(3)(b) of NEMA between the Free State Department of Small Business Development, Tourism and Environmental Affairs (DESTEA) and DFFE to confirm that the proposed project can be decided upon by the DFFE. A copy of this agreement is included in Appendix C.8 of the Scoping Report.

The Project Applicant for the proposed project is Biesjesvlei 1 (Pty) Ltd.

NEED FOR THE EIA

The proposed project triggers the need for an EA in terms of the 2014 NEMA EIA Regulations (as amended) published in GN R326, R327, R325 and R324 and further amended on 11 June 2021 in GN 517; and on 3 March 2022 in GN 1816. Chapter 4 of the Scoping Report contains a detailed list of activities, which may be triggered by the project and the various project components and thus forms part of this Scoping and EIA Process. Listed below is the key listed activity triggered for the project (Table A).

Table A. Key Listed Activity

Project	Listing Notice, Listed Activity and Description
Project 10: Biesjesvlei MTS and LILO and associated infrastructure	GN R325 (Listing Notice 2), Activity 9: The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is (a) temporarily required to allow for maintenance of existing infrastructure; (b) 2 kilometres or shorter in length; (c) within an existing transmission line servitude; and (d) will be removed within 18 months of the commencement of development.

The purpose of the Scoping and EIA Process is to identify, assess and report on any potential impacts the proposed project, if implemented, may have on the receiving environment. The Scoping and EIA therefore needs to show the Competent Authority and the Project Applicant what the consequences of their choices will be in terms of impacts on the biophysical and socio-economic environment and how such impacts can be, as far as possible, enhanced or mitigated and managed as the case may be.

PROJECT EIA TEAM

In accordance with Regulation 12 (1) of the 2014 NEMA EIA Regulations (as amended), the Council for Scientific and Industrial Research (CSIR) has been appointed by the Project Developer to undertake the required Scoping and EIA Process in order to determine the potential biophysical, social and economic impacts associated with undertaking the proposed development. The project team and the relevant specialists are indicated in Table B below.

Table B. Project Team for the Scoping and EIA Process

NAME	ORGANISATION	ROLE/STUDY TO BE UNDERTAKEN
<i>Environmental Management Services (CSIR)</i>		
Paul Lochner (<i>Registered EAP (2019/745)</i>)	CSIR	EAP, Technical Advisor and Quality Assurance
Rohaida Abed (<i>Pr.Sci.Nat.; Registered EAP (2021/4067)</i>)	CSIR	EAP and Project Manager
Helen Antonopoulos	CSIR	Project Officer
Suvasha Ramcharan (<i>Cand.Sci.Nat.</i>)	CSIR	Project Officer
Phindile Mthembu	CSIR	Project Officer
Luanita Snyman van der Walt (<i>Pr.Sci.Nat.</i>)	CSIR	GIS Specialist
Lizande Kellerman (<i>Pr.Sci.Nat.</i>)	CSIR	Public Participation Specialist
<i>Specialists</i>		
Johann Lanz (<i>Pr.Sci.Nat.</i>)	Private	Agriculture and Soils Compliance Statement
Corné Niemandt (<i>Pr.Sci.Nat.</i>) Samuel Laurence (<i>Pr.Sci.Nat.</i>)	Enviro-Insight cc	Terrestrial Biodiversity Assessment, Terrestrial Plant Species Compliance Statement, and Terrestrial Animal Species Compliance Statement
Russell Tate (<i>Pr.Sci.Nat.</i>)	Tate Environmental Specialist Services (sub-contracted by Enviro-Insight)	Aquatic Biodiversity and Species Assessment
Samuel Laurence (<i>Pr.Sci.Nat.</i>)	Enviro-Insight cc	Avifauna Impact Assessment
Quinton Lawson (<i>SACAP, 3686</i>) Bernard Oberholzer (<i>SACLAP, 87018</i>)	QARC and BOLA	Visual Impact Assessment
Dr Jayson Orton (<i>APHP: Member 43; ASAPA CRM Section: Member 233</i>)	ASHA Consulting (Pty) Ltd	Heritage Impact Assessment (Archaeology and Cultural Landscape)
Dr John Almond (<i>PSSA and APHP Member</i>)	Natura Viva cc	Palaeontology
Dale Barrow (<i>Pr.Sci.Nat.</i>) Hardy Luttig Louis Jonk (<i>Pr.Sci.Nat.</i>) Julian Conrad	GEOSS South Africa (PTY) Ltd	Geotechnical Letter of Professional Opinion
Rohaida Abed (<i>Pr.Sci.Nat.; Registered EAP (2021/4067)</i>) Lizande Kellerman (<i>Pr.Sci.Nat.</i>) Willan Adonis ¹	CSIR	Civil Aviation Site Sensitivity Verification

The specialist assessments will be detailed during the EIA Phase and will comply with Appendix 6 of the 2014 NEMA EIA Regulations (as amended), or the Assessment Protocols published in GN 320 on March 2020; or the Assessment Protocols published in GN 1150 on October 2020. However, the Geotechnical Letter of Opinion serves as a technical report and the aforementioned legislation will thus not be applicable.

STUDY AREA

The study area or preferred site for all the proposed Biesjesvlei Solar PV Facilities, BESS, 132 kV power lines, MTS and LILO and associated infrastructure (i.e., Projects 1 to 10) covers approximately 3 060 hectares (ha). These farm properties are listed in Table C.

¹ This staff member resigned from the CSIR at the end of December 2023.

Table C: Farm portions and SG codes for the Study Area

FARM PORTION	SG CODE
Farm Benoni 534	F03100000000053400000
Remaining Extent of Farm Biesjespoort 521	F03100000000052100000
Farm Biesjesvlei 372	F03100000000037200000
Farm Klein Badfontein 369	F03100000000036900000
Farm Modderkuil 396	F03100000000039600000
Farm Paalland 373	F03100000000037300000
Remaining Extent of Farm Pompoenfontein 118	F03100000000011800000
Portion 1 of Farm Pompoenfontein 118	F03100000000011800001
Farm Ronde Bult 408	F03100000000040800000
Farm Salpetervlei 756	F03100000000075600000
Portion 1 of Farm Schoemanskraal 34	F0310000000003400001

As part of the Scoping and EIA Process, the full extent of the study area has been assessed by the specialists in order to identify environmental sensitivities and no-go areas. The preferred site serves as the study area for this Scoping and EIA Process. Therefore, the terms “site” and “study area” are used synonymously in the Scoping Report.

PROJECT DESCRIPTION

A summary of the key components of the proposed Biesjesvlei MTS and LILO (Project 10) and technical information is described in Table D below.

Table D. Summary of the components and associated infrastructure for Biesjesvlei MTS and LILO (Project 10)

Component	Description
Independent Main Transmission Substation (MTS)	<ul style="list-style-type: none"> ▪ Footprint: Approximately 36 ha ▪ Height: 15 m ▪ Capacity: 400/132 kV ▪ Associated infrastructure includes busbars, feeder bays, transformers and transformer bays.
Building Infrastructure	<ul style="list-style-type: none"> ▪ Operational and Maintenance (O&M) Building and Offices (approximately 500 m² in area, and 7 m in height)
Fencing around the MTS Perimeter	<ul style="list-style-type: none"> ▪ <u>Type</u>: Palisade or mesh or fully electrified ▪ <u>Security</u>: Access points will be managed and monitored by an appointed security service provider.

Component	Description
Internal Roads within the MTS	<ul style="list-style-type: none"> ▪ <u>Height</u>: Between 2 - 3 m ▪ <u>Details</u>: New internal gravel roads will need to be established within the fenced off area of the MTS. ▪ <u>Width</u>: Approximately 4 m
400 kV Loop-In-Loop-Out (LILO)	<ul style="list-style-type: none"> ▪ The LILO will be routed above ground from the existing Eskom Beta-Delphi 400 kV Overhead Power Line to the proposed MTS. ▪ <u>Height</u>: Up to 37 m ▪ <u>Length</u>: Approximately 1 km ▪ <u>Servitude</u>: 40 m wide ▪ <u>Pylon specifications</u>: <ul style="list-style-type: none"> ○ <u>Type</u>: Lattice structures. ○ <u>Tower</u>: Self-supporting and Angle Strain. ○ <u>Foundation</u>: The size of the footprint area for the base of the tower foundation will range to approximately 100 m². The minimum working area required around a structure position is 20 m x 20 m. ○ <u>Span Length</u>: 200 m – 375 m
Service Road for the LILO	<ul style="list-style-type: none"> ▪ <u>Details</u>: A new gravel service road will need to be established below the LILO. ▪ <u>Width</u>: Approximately 4 m
External Access Roads	<ul style="list-style-type: none"> ▪ The study area can be accessed via various existing main roads and gravel roads. Specifically, three access route options are being considered: Access Route Option A, Option B and Option C, which are routed along the N6; S1262; and S119. Options A, B and C have different access points off the S119. Direct access to the proposed projects will be taken from the S119 along an existing farm access point, and thereafter new access roads will be developed within the study area, where they do not align with existing roads, or existing roads will be used where possible. Existing roads will be used as far as practically achievable.

Component	Description
	<ul style="list-style-type: none"> ▪ <u>New Access Roads</u>: Where new access roads are required within the study area, these will be 4 - 8 m wide. ▪ <u>Existing Access Roads</u>: Where existing roads are used within the study area, they may need to be upgraded, as described below. ▪ The Traffic Specialist² has noted the following based on preliminary investigations: <ul style="list-style-type: none"> ○ The N6, S1262, and S119 are suitable and do not need to be upgraded. ○ The N6, S1262, and S119 are of a sufficient width to accommodate truck movement, however widening by more than 4 m or more than 6 m may be required at localised positions (i.e. intersections). Specifically, road widening by approximately 9 m will be required at the S1262 and S119 intersection. ○ Existing internal farm roads (local farm roads within the farm property boundaries) will need to be upgraded to accommodate the abnormal loads as required. This includes the following: <ul style="list-style-type: none"> ▪ Intersection S119 and Access Route Option A: Road widening by approximately 14 m (at the widest point) will be required. ▪ Intersection S119 and Access Route Option B: Road widening by approximately 7 m (at the widest point) will be required. ▪ Intersection S119 and Access Route Option C: Road widening by approximately 14 m (at the widest point) will be required. ▪ An existing bridge on the S119 will also need to be inspected by a Structural Engineer. ▪ The existing bridge on the existing internal farm road leading from Access Route Option A will most likely need to be rebuilt or realigned to minimise

² The Traffic Impact Assessment is being undertaken for the Biesjesvlei PV (Projects 1 to 3) and Biesjesvlei BESS (Projects 4 to 6). Traffic related information will still inform the EGI projects.

Component	Description
	the turns that the abnormal loads need to navigate. Additional detail will be provided in the EIA Phase.
Storm water channels	<ul style="list-style-type: none"> ▪ Details to be confirmed once the Engineering, Procurement and Construction (EPC) contractor has been selected and the design is finalised. Where necessary, a detailed storm water management plan would need to be developed.
Work area during the construction phase (i.e. laydown area)	<ul style="list-style-type: none"> ▪ Footprint: Up to 13 ha
Water Requirements	<ul style="list-style-type: none"> ▪ Approximately 8 000 m³ to 12 000 m³ of water is estimated to be required per year for the construction phase. ▪ Approximately 10 000 m³ to 16 000 m³ of water is estimated to be required per year for the operational phase. ▪ Water requirements during the decommissioning phase are expected to be the same as the construction phase. ▪ Potential sources: Existing boreholes on site or from the Local Municipality via trucks.
Construction Period	<ul style="list-style-type: none"> ▪ 12 – 24 months
Operational Period	<ul style="list-style-type: none"> ▪ Once the commercial operation date is achieved, the proposed EGI will transmit electricity for a minimum period of 20 to 30 years.

POTENTIAL ISSUES AND HIGH-LEVEL IMPACT ASSESSMENT

Potential key preliminary issues and impacts associated with the proposed project, and preliminary mitigation measures have been identified by the specialist team for the Scoping Phase. This is based on an evaluation of the status quo of the receiving environment, by the specialists, either through desktop assessments or site investigations, where relevant and required. The impact ratings and mitigation measures are high-level for the purposes of Scoping, and, where necessary, will be confirmed and detailed during the EIA Phase.

These preliminary key potential issues and direct impacts are summarised in Table E below and are included in Chapter 6 of this Scoping Report. Issues raised during the 30-day review period on the Draft Scoping Report were in line with the potential issues identified below for further assessment in the EIA Phase. The Terms of Reference for the various Specialist Assessments and Inputs are included in Chapter 7 of this Scoping Report.

At the Scoping Phase, based on the preliminary impacts described below, there are no negative impacts that are rated as Very High significance after mitigation. Overall, it can be concluded that the effect of potential impacts can be limited or reduced to acceptable levels through avoidance, minimisation and the implementation of appropriate mitigation measures and management actions during the construction, operational and decommissioning phases.

Table E. Summary of Issues to be addressed during the EIA Phase as part of the Specialist Assessments / Inputs³

Specialist Assessment / Input	Key Issues / Impacts to be addressed in the EIA Phase
Agriculture	<p>Construction, Operational and Decommissioning Phases:</p> <ul style="list-style-type: none"> ▪ Loss of agricultural potential by occupation of land; ▪ Loss of agricultural potential by soil degradation; ▪ Loss of agricultural potential by dust generation; ▪ Increased financial security for farming operations (<i>positive impact</i>); and ▪ Improved security against stock theft and other crime due to the presence of security infrastructure and security personnel (<i>positive impact</i>).
Terrestrial Biodiversity and Species (including Animal and Plant Species)	<p>Construction Phase:</p> <ul style="list-style-type: none"> ▪ Habitat loss and fragmentation. ▪ Loss of protected species; ▪ Increased alien invasive species; ▪ Increased erosion and soil compaction; and ▪ Littering and general pollution. <p>Operational Phase:</p> <ul style="list-style-type: none"> ▪ Increased alien invasive species. ▪ Loss of species composition and diversity; and ▪ Littering and general pollution. <p>Decommissioning Phase:</p> <ul style="list-style-type: none"> ▪ Loss of habitat; and ▪ Increased alien invasive species.
Aquatic Biodiversity and Species	<p>Construction, Operational and Decommissioning Phases:</p> <ul style="list-style-type: none"> ▪ Habitat Quality Degradation; ▪ Water Quality Degradation; and ▪ Aquatic Habitat Connectivity Loss.

³ Impacts / issues in the table are all classified as negative, except where specified as positive.

Specialist Assessment / Input	Key Issues / Impacts to be addressed in the EIA Phase
<p style="text-align: center;">Avifauna</p>	<p>Construction Phase:</p> <ul style="list-style-type: none"> ▪ Disturbance of foraging and breeding behaviours of birds due to noise, dust and lighting; and ▪ Loss of habitat due to clearing, trenching, alteration and exclusion from previously accessible habitats. <p>Operational Phase:</p> <ul style="list-style-type: none"> ▪ Continued disturbance due to operational activities (use of vehicles, lights etc.); ▪ Loss of habitat due to altered and excluded habitats and threat of fire; ▪ Direct mortality from electrocution and collision with infrastructure (e.g. fences, overhead power lines); and ▪ Attraction to the facility exacerbating potential impacts. <p>Decommissioning Phase:</p> <ul style="list-style-type: none"> ▪ Continued disturbance due to decommissioning activities (use of vehicles, lights etc.); ▪ Habitat loss reclamation from rehabilitation activities (<i>positive impact</i>); and ▪ Removal of power lines to promote safe passage (lowering collision risk) through the site and avoiding attraction by birds perching and nesting (<i>positive impact</i>).
<p style="text-align: center;">Visual</p>	<p>Construction Phase:</p> <ul style="list-style-type: none"> ▪ Potential effect of dust and noise from trucks and construction machinery during the construction period, and the effect of this on nearby farmsteads and visitors to the area; and ▪ Potential visual effect of haul roads, access roads, stockpiles and construction camps in the visually exposed landscape. <p>Operational Phase:</p> <ul style="list-style-type: none"> ▪ Potential visual intrusion of the MTS, LILO and associated infrastructure on receptors; and ▪ Potential visual impact of an industrial type of activity on the pastoral / rural character and sense of place of the area. <p>Decommissioning Phase:</p> <ul style="list-style-type: none"> ▪ Potential visual effect of any remaining structures, platforms and disused roads on the landscape.

Specialist Assessment / Input	Key Issues / Impacts to be addressed in the EIA Phase
<p>Heritage (including Archaeology and Cultural Landscape)</p>	<p>Construction Phase:</p> <ul style="list-style-type: none"> ▪ Damage or destruction of archaeological materials; ▪ Damage or destruction of graves; ▪ Damage to built heritage resources; and ▪ Intrusion of the power line, MTS, equipment and all associated infrastructure into the landscape. <p>Operational and Decommissioning Phases:</p> <ul style="list-style-type: none"> ▪ Intrusion of the power line, MTS, equipment and all associated infrastructure into the landscape.
<p>Palaeontology</p>	<p>Note that a palaeontological impact assessment is not required. Refer to the Palaeontology Site Sensitivity Verification (SSV) in Appendix E.7 of this Scoping Report for additional information on the palaeontology within the study area, as well as feedback on the motivation for no further palaeontology assessments being required for the proposed projects. This approach is accepted and supported by the South African Heritage Resources Agency (SAHRA), as indicated in Appendix G.6 of this Final Scoping Report.</p>
<p>Geotechnical</p>	<p>Construction Phase:</p> <ul style="list-style-type: none"> ▪ Displacement of geologic material. <p>Construction, Operational and Decommissioning Phases:</p> <ul style="list-style-type: none"> ▪ Contamination of subsoils and loss of topsoil. <p>Operational and Decommissioning Phases:</p> <ul style="list-style-type: none"> ▪ Increased unnatural hard surfaces yielding increased runoff, potentially increasing erosion.
<p>Civil Aviation</p>	<p>Note that there are no impacts with respect to Civil Aviation as confirmed through the Site Sensitivity Verification included in Appendix E.9 of the Scoping Report.</p>